Amendments to the Specification:

Please replace the paragraph beginning at page 9, line 14 and ending at page 9, line 15 with the following amended paragraph:

Figures [[4A-4E]]5A-5E show a technique for combining 2D color photographs with 3D tooth data to created textured (colored) 3D tooth models.

Please replace the paragraph beginning at page 9, line 16 and ending at page 9, line 20 with the following amended paragraph:

Figure [[5]]6 is a screen shot of the user interface of Figure 1 showing a three-dimensional face model and a three-dimensional tooth model, in separate coordinate systems (i.e., prior to registration or superposition of the two relative to each other). Figure [[5]]6 also shows a plurality of icons, which, when activated, provide tools for manipulating the models shown in the Figure.

Please replace the paragraph beginning at page 9, line 21 and ending at page 9, line 23 with the following amended paragraph:

Figure [[6]]7 is a screen shot showing one possible method of placement of the lower jaw 3D data into the face data coordinate system using corresponding points that are common to each data set.

Please delete the paragraph beginning at page 10, line 1 and ending at page 10, line 2:

~~Figure 7 is a screen shot showing the face data and the lower jaw 3D data in a common coordinate system (the face coordinate system of Figures 5 and 6).~~

Please replace the paragraph beginning at page 26, line 14 and ending at page 27, line 4 with the following amended paragraph:

Figures [[4A-4E]]5A-5E show several screen displays from a user interface of the unified workstation that illustrate the process of texture mapping a 3D object (here, teeth) by projection of color data from a 2D photograph. After a patient's dentition is scanned, the virtual teeth and gingiva for both upper and lower arches are represented as a single surface, in the present example a triangle mesh surface. Figure [[4A]]5A shows a 2D digital photograph of teeth/gingivae 71 displayed in a graphical window 73 along with a 3D virtual model of the teeth 75 to one side. The 2D digital photograph 71 is scaled up or down in size as necessary so as to be approximately the same in scale (size) as the 3D model of the teeth 75. This is accomplished using any suitable icons or mouse action, such as clicking on the 2D photograph and scrolling up or down with the mouse to change the size of the 2D image so that it matches the size of the 3D model. Figure [[4B]]5B shows the surface of the teeth and gingivae of the 3D virtual model 75 in greater detail. The surface of the model 75 comprises a set of minute interconnecting triangle surfaces, with the vertices of the triangle surfaces being points that represent the surface. This is only one possible format for representing the surface of a 3D object.

Please replace the paragraph beginning at page 27, line 5 and ending at page 27, line 14 with the following amended paragraph:

After the 2D photograph and 3D model have been scaled, a translation is performed so as to overlap the 3D model and the 2D photograph. Figure [[4C]]5C shows the 2D picture 71 transformed by scaling and translation such that it is superimposed on the 3D model 75. This superposition could be performed manually or automatically. For example, the user can click and drag the 2D digital photograph 71 and manually move it using the mouse so that it overlaps exactly the 3D model 75. The

color information in the 2D photograph 71 is projected and mapped to the individual triangle surfaces forming the lower jaw and upper jaw of the 3D model 75 using, for example, a projection algorithm. The result, a textured 3D model, is shown in Figure [[4D]]5D. Figure [[4E]]5E shows textured 3D model after rotation on the user interface.

Please replace the paragraph beginning at page 27, line 18 and ending at page 28, line 5 with the following amended paragraph:

Figure [[5]]6 is an illustration of a screen display on the user interface of the computer 10. The display shows a 3D morphable model 102 of patient on the left hand side of the display, in a given arbitrary coordinate system X, Y, Z. The morphable model 102 is obtained, for example, from color photographs using the techniques described previously. A three-dimensional model 104 of teeth of the patient is shown on the right hand side of the screen. The 3D model of the teeth 104 can be obtained from intra-oral scanning using the scanner 30 of Figure 1, from a laser scan of a physical model of the dentition obtained from an impression, from a coordinate measuring device or some other source. The source is not particularly important. The 3D model of the teeth 104 is shown in a separate coordinate system X', Y', Z'. Screen display includes various icons 35 that allow the user to position the tooth model 104 relative to the morphable model 102 in order to combine the two in a common coordinate system and construct a composite model.

Please replace the paragraph beginning at page 28, line 6 and ending at page 28, line 14 with the following amended paragraph:

In Figure [[6]]7, the user has activated an "Align References" icon, which causes the screen display to show the box 106 on the left hand side of the screen. The user is provided with the option to pick points that represent anatomical structures that are common to both the morphable model 102 and the 3D tooth model 104. In this particular

situation, the user has selected with the mouse two points on the lower arches which lie at the intersection of the teeth and the gums. These two points are shown as a triangle 108 and a square 110. Obviously, other points could be chosen. The user then clicks on the "Apply" tab 112. The result is ~~shown in Figure 7, in which~~ the 3D tooth model 104 is combined with the morphable face 102 model to produce a combined virtual patient model[[34]].

Please replace the paragraph beginning at page 28, line 15 and ending at page 28, line 19 with the following amended paragraph:

In the example of Figures [[5-7]]6-7, the morphable model 102 was already scaled to the same scale as the tooth model 104. In other words, the data representing the morphable face model indicates that the spatial dimensions of the teeth in the morphable face model is substantially the same as the spatial dimensions of the virtual tooth model 104. Methods of performing scaling are described below.

Please replace the paragraph beginning at page 92, line 20 and ending at page 92, line 21 with the following amended paragraph:

This step can be incorporated in the menu of display screen available in the mandible and maxilla inter-arch relationship, as shown in Figures [[82]]81-90.

Amendments to the Drawings:

The attached sheets of drawings include changes to Figures 4A-4E, 5, 6, 12, 13, 14, 15, 17 and 18.

In Figures 4A and 4B, the figure numbers have been relabeled from 4A to 5A and 4B to 5B and the text describing each figure has been deleted.

In Figures 4C and 4D, the figure numbers have been relabeled from 4C to 5C and 4D to 5D and the text describing each figure has been deleted.

In Figure 4E, the figure number has been relabeled from 4E to 5E and the text describing the figure has been deleted.

In Figure 5, the figure number has been relabeled from 5 to 6.

In Figure 6, the figure number has been relabeled from 6 to 7.

In Figures 12 and 13, the text associated with reference numbers has been deleted.

In Figures 14 and 15, the text associated with reference numbers has been deleted.

In Figure 17, the text associated with reference numbers has been deleted.

In Figure 18, the text associated with reference numbers has been deleted.

Attachment: Replacement Sheets for newly labeled Figures 5A-5E, 6, 7, 12, 13, 14, 15, 17 and 18.

Annotated Marked-up Drawing Sheets corresponding to the Replacement Sheets.